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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/791,631

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EXAMINER

BOS, STEVEN J

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

10/15/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/791,631	Applicant(s) NIELSEN ET AL.	
	Examiner Steven Bos	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 40-78 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 40-78 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| <p>1) <input type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____</p> | <p>4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)
 Paper No(s)/Mail Date <u>6-28-07</u></p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application</p> <p>6) <input type="checkbox"/> Other: _____</p> |
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It is noted that the status of 09/480,092 recited on instant pg. 1 needs to be updated to reflect that it is now US Patent 6,609,761.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 43,50,54,72 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The limitations of each of new claims 43,50,54,72 are new matter.

Claim 9 of US '809 supports "the equilibrium temperature corresponding to the minimum hydraulic fracture pressure of the nahcolitic oil shale deposit" whereas instant claim 43 recites "the equilibrium temperature corresponding to the minimum hydraulic fracture pressure of the ore deposit."

Claim 9 of US '809 supports "the equilibrium temperature corresponding to the minimum hydraulic fracture pressure of the nahcolitic oil shale deposit" whereas instant claim 72 recites "the equilibrium temperature corresponding to the minimum hydraulic fracture pressure of the ore deposit."

Claim 10 of US '809 supports "the pressure is less than the minimum hydraulic fracture pressure of the nahcolite deposit being mined" whereas instant claim 50 recites

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“the pressure is less than the minimum hydraulic fracture pressure of the ore deposit being mined.”

Claim 14 of US '809 supports “wherein the solution mining is carried out in a lean nahcolitic oil shale interval” whereas instant claim 54 recites “wherein the solution mining is carried out in a lean oil shale interval.”

Claims 40-78 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for “recovery of sodium bicarbonate from a nahcolite deposit,” does not reasonably provide enablement for recovery of sodium bicarbonate from any ore deposit primarily comprising sodium bicarbonate. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims. The instant specification discloses useable temperatures and pressures for nahcolite containing ore only. Applicant states that instant para. 2 and 43 support nahcolite being primarily sodium bicarbonate. However that is not what is instantly claimed. In any event, ore that is “primarily sodium bicarbonate” is not the same as nahcolite because trona ore is also “primarily sodium bicarbonate.” It is noted that “Nahcolite: An ore containing primarily sodium bicarbonate (bicarb) as the water soluble salt” is not found in para. 43.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 40-78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosar '790 in view of Prats, et al.

Rosar teaches the instantly claimed process of recovering sodium bicarbonate solution by dissolving nahcolitic oil shale in a mining zone by injecting a hot aqueous liquid solution into a well in the mining zone at a temperature below about 250°F and a pressure below about 200 psig each of which overlaps that instantly disclosed due to the breadth of the word "about" and instant pg. 16 which refers to Fig. 6 for the mining zone operating pressure. See the abstract, Fig. 1, col. 9 and the claims.

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, *In re Malagari*, 182 USPQ 549.

Rosar may differ in that temperatures of at least 250°F are not stated.

Prats teaches a similar process as Rosar and teaches temperatures greater than 250°F, eg. 300°F, 350°F, to form hot aqueous solutions of sodium bicarbonate from nahcolite ore. See pp. 1080-1.

It would have been obvious to one skilled in the art to use temperatures greater than 250°F in the process of Rosar because Prats teaches that such temperatures may be used to form hot aqueous sodium bicarbonate solutions similar to those of Rosar.

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to select the portion of the prior art's range which is within the range of applicant's claims because it has been held to be

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obvious to select a value in a known range by optimization for the best results, see *In re Boesch*, 205 USPQ 215.

Applicant's arguments filed July 23, 2007 have been fully considered but they are not persuasive.

Applicant argues that Rosar teaches that the temperature of the solution withdrawn from the cavity is in the range of about 80-200°F thus the temperature range of the production solution in Rosar is significantly below the temperature required in amended claims 40 and 71.

However this argument is not commensurate in scope with instant claims 40,71, which do not recite or require a production solution temperature range but instead recite an injection temperature of at least 250°F. Rosar teaches injecting a hot aqueous liquid solution into a well in the mining zone at a temperature below about 250°F which overlaps that instantly claimed, *supra*.

Applicant argues that Prats teaches the use of steam, not liquid water on pg. 1085.

However pg. 1078 of Prats teaches that hot water and steam were used to leach the nahcolite. The instant claims do not exclude the use of steam and the taught use of hot water and steam suggests that the hot water is liquid water and that it refers to the water disclosed on pp. 1080-1.

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THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Bos whose telephone number is 571-272-1350. The examiner can normally be reached on M-F, 9AM to 6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stan Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Steven Bos
Primary Examiner
Art Unit 1793

sjb